1999

Salary survey of district eight certified athletic trainers

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Salary Survey of District Eight
Certified Athletic Trainers

A Project Report

Presented to

The Faculty of the Department of Human Performance

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

By

Ann M. Caslin

August, 1999

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Salary Survey of District Eight

Certified Athletic Trainers

by

Ann M. Caslin

Abstract

The objective of this study was to obtain salary, demographic, and descriptive information from Certified Athletic Trainers registered in District Eight of the National Athletic Trainers Association (NATA), to provide standard wage information. A 20 question mailed survey was distributed to all 1,447 Certified members of District Eight. Six hundred eighty six (47%) surveys were returned, and 578 (40%) of those returned were considered to be usable. The results of this study show that athletic trainers employed in the professional setting earn the highest average salary, yet also work the highest average number of hours per week. Those athletic trainers employed in the clinic/high school setting earn the lowest average yearly salary. Hourly wages were highest in the corporate setting, and lowest in the clinic/high school setting. The findings of this study substantiates past research that salary is affected primarily by an individual's highest degree earned and the possession of additional certifications. In addition, salary in District Eight varies in comparison to other districts, thus suggesting the need for further research throughout the NATA.

ACKNOWLEDGEMENTS

I would like to gratefully acknowledge and thank the many people who helped me make this study possible. First and foremost my project committee, Leamor Kahanov, Bethany Shifflett, and Jeff Roberts, for their patience, support, and helpful insight. I know I could not have made this happen without you. To the San Jose State University Lottery Committee for funding this study. To my family, Mom, Dad, Timmy, Kate, and Patrick Thomas, for their constant love and support. To my second family, especially Chris, Shane, and T.J. for Scruffy's and your couch, Janelle for damage control, and the rest of the Stanford Sports Medicine Staff, for always being there for me. To Kathy for sharing your extensive computer knowledge with me. To Regan, for letting me take over your computer and helping me to hang on. And finally to all of the District Eight Certified Athletic Trainers who took time out of their busy schedules to complete my survey, this study could not have been completed without them.

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Submission Letter

This manuscript 1) contains original unpublished material that has been submitted solely to the *Journal of Athletic Training*, 2) is not under simultaneous review by any other publication, and 3) will not be submitted elsewhere until a decision has been made concerning its suitability for publication by the *Journal of Athletic Training*. In consideration of the NATA's taking action in reviewing and editing my submission, I the undersigned author hereby transfer, assign, or otherwise convey all copyright ownership to the NATA, in the event that such work is published by the NATA. Further, I verify that I have contributed substantially to this manuscript as outlined in item #3 of the current Authors ' Guide.

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Salary Survey of District Eight

Certified Athletic Trainers

Abstract

Objective: The objective of this study was to obtain salary, demographic, and descriptive information from Certified Athletic Trainers registered in District Eight of the National Athletic Trainers Association, to provide standard wage information.

Design and Setting: A 20 question mailed survey of certified athletic trainers was distributed to collect data on salary, demographic, and descriptive information on athletic training employment settings.

Subjects: All 1,447 Certified members of District Eight were surveyed. Six hundred eighty six (47%) surveys were returned, and 577 (39.8%) of those returned were considered to be usable.

Measurements: Data were analyzed using descriptive statistics including mean, standard deviation, and frequency distributions. Correlations, cross tabulations, and means by subgroups were also analyzed.

Results: The results of this study show that athletic trainers employed in the professional setting earn the highest average salary, yet work the highest average number of hours per week. Those athletic trainers employed in the clinic/high school setting earn the least average yearly salary. Hourly wages are highest in the corporate setting, and lowest at the clinic/high school setting.

Conclusions: The findings of this study substantiate past research that salary is affected primarily by an individual's highest degree earned and the possession of additional certifications. In addition, salary in District Eight varies in comparison to other districts, suggesting the need for further research throughout the NATA.

Key Terms: Certified Athletic Trainer, Salary, Employment Setting, Educational Level, Years of Experience, Job Market

INTRODUCTION

An influx in athletic trainers who obtain national certification has expanded the field of athletic training over the past ten years. The National Athletic Trainers Association (NATA) has experienced over a 300% increase in membership growth, from 200 athletic trainers in its founding year, 1950, to more than 19,000 members today (National Athletic Trainers Association, personal communication, September 17, 1998). Last year alone, 2,137 athletic trainers became certified (NATA, personal communication, September 17,1998). This increase in the number of certified athletic trainers may have contributed to employment setting diversification from the traditional collegiate setting to high school, rehabilitation clinic/high school, rehabilitation clinic, professional, industrial, and a combination of all of these settings; yet, salary ranges and benefit packages are not consistent among setting or location (Hunt, 1999). Recent research conducted by the NATA has neglected to analyze salary issues pertaining to cost of living and rural versus metropolitan influences on salary (Hunt, 1999).

Despite the rapid growth in the number of certified athletic trainers nationwide and employment setting expansion, standard wage charts have not been developed across all districts. Past studies have identified several factors which may affect salary ranges in athletic training including educational level, length of contract, additional certifications, years of experience, and job conditions/work conditions (including title, full versus part time, number of hours worked, responsibilities other than athletic training, and benefits) (Arnold et al., 1996). These factors, in addition to salary

ranges, have not yet been identified for District Eight of the NATA. Thus, athletic trainer employers in the western United States may not adequately compensate their athletic trainers. The purpose of this study is to examine the salary ranges of District Eight certified athletic trainers in all athletic training employment settings to provide standard wage information.

METHODS

Subjects selected for this study included all 1,447 certified athletic trainers registered in District Eight of the National Athletic Trainers Association. Prior to data collection, approval for this study was granted by the Human Subjects Committee at San Jose Sate University. Survey return was considered consent to participate. The cover letter accompanying the survey addressed issues of consent, anonymity, and confidentiality.

A 20 question survey was designed specifically for use in this study. Variables were selected based on past salary surveys (Somerville & Stanwood, 1996), and included employment setting, job title, designation as an entry level position, full time versus part time status, average number of hours worked per week, state in which employed, starting salary at current position, current salary, yearly increases in salary, supplemental income, responsibilities outside of athletic training, compensation for outside responsibilities, medical benefits, possession of additional certifications, years of experience as a certified athletic trainer, years at current position, and highest degree of education. Additional questions relating to rural versus metropolitan settings were added to the survey.

A qualitative review of the survey instrument was conducted through

the use of a pilot study in order to enhance the quality and clarity of the survey. The pilot study was conducted on 25 subjects from District Eight and as a result those subjects were eliminated from the current study. The survey was modified based on the results of the pilot study then mailed to the remaining 1,447 certified athletic trainers in District Eight.

A member list and mailing labels were obtained from District Eight. Respondents were allowed two weeks to return the survey. A reminder post card was sent one week following the initial mailing.

Means, standard deviations, and frequency distributions were used to describe subject responses. Correlations, cross tabulations, and means by subgroups were used to analyze subjects responses for comparison to previous studies that evaluated salary and employment data through descriptive statistics (Somerville & Stanwood,1996; Moss, 1994, 1996).

RESULTS

One thousand four hundred forty seven surveys were mailed, 686 (47.4%) were returned, and 577 (39.8%) were usable. The average age of the respondents in this study was 33.9 ($\pm$ 7.5) years. Fifty three percent of respondents were male and 47% female. The average number of years experience as a certified athletic trainer was 9.25 ($\pm$ 6.86) years. Thirty eight percent of the respondents earned national certification through a curriculum route, and 62% matriculated from an internship route. The majority of respondents were employed in the collegiate setting (33.1%), while corporate setting respondents (0.7%) were least represented (see Table 1). Population

demographics for the current study are similar to NATA demographics (Hunt, 1999).

Entry level positions constituted 25% (n = 145) of those responding. Forty six percent (n = 263) were head athletic trainers, 12% (n = 67) were assistant athletic trainers, and 42% (n = 247) had other job titles. The average amount of time athletic trainers had been in their current position was 5.5 (± 5.7) years. The majority of respondents were from the metropolitan areas of California (79%) (see Table 2). Overall, 462 (80.2%) athletic trainers were considered full time employees, and 114 (19.8%) part time employees.

Variability in the salaries of both full time and part time employees was large. Full time employees earn an average of $40,989 (± 17,566) per year and part time employees earned on average $18,110 (± 14,996). As expected, both part time and full time non-entry level athletic trainers earned a greater average salary ($21,428 ± 17,449 and $43,806 ± 17,744, respectively) than part time and full time entry level athletic trainers ($14,291 ± 10,489 and $29,963 ± 11,220, respectively). Three hundred thirty athletic trainers (58.1%) receive a yearly increase in salary, and in addition, 315 (54.7%) athletic trainers report having a supplemental income.

Athletic trainers employed in the professional setting earned the highest salary, yet they worked more hours (67 per week). Professional athletic trainers represent only 3.3% of the respondents, which is consistent with the low percentage of professional athletic trainers across the country (NATA, personal communication, October 27, 1998). Athletic trainers

employed in the clinic/high school setting earn the lowest average yearly wage (see Table 1).

All athletic trainers worked more than a 40 hour work week, ranging from an average of 44 hours per week in clinics, to 67 hours per week in the professional setting (see Table 3). The average salary per hour was highest in the part time corporate setting at $38.88 per hour, and lowest at the part time professional setting at $11.33 per hour. Forty eight percent (n = 277) of the athletic trainers have responsibilities outside of athletic training included as part of their duties, however, only 21.1% (n = 122) are actually compensated for these responsibilities.

Medical coverage was the most commonly offered benefit (80.4%) and was also shown to have the highest average coverage (92.6% ± 11.2) (see Table 4). Most athletic trainers had dental benefits (73%). Some athletic trainers benefits covered vision (57.1%), life insurance (53.6%), and prescription coverage (57.1%).

Degrees earned by the responding athletic trainers were evenly distributed between bachelor's (46.9%) and master's degrees (49.7%), while those with doctoral degrees represented only a small percentage (3.5%) (see Table 5); however, those who possess doctoral degrees earn an average of $66,155 (± 32,583), in comparison to those with master's degrees who earned an average of $41,214 (± 17,650). In comparison, those who possess bachelor's degrees earned an average of $29, 239 (± 15,857). Additional certifications were held by 402 (27.8%) of those athletic trainers responding (see Table 6). Teaching (17%) was the most common additional certification held, followed

by physical therapy assistant (14%) (see Table 6). Those with Physical Therapy as an additional certification earned the highest salary and those athletic trainers who are certified as Emergency Medical Technicians (EMT) earned the lowest salary.

DISCUSSION

The need for higher education is evidenced in the current study which indicates that athletic trainers who have obtained their doctoral degree earn more than those who have obtained their master's degree, who in turn earn more than those who have obtained their bachelor's degree (see Table 5). This finding is consistent with the findings of Arnold, et al. (1996) who concluded that the best predictor of salary is educational degree, not employment setting. Thus, those athletic trainers seeking increased salaries should pursue higher educational degrees.

Salary range is also attributable to experience. Entry-level salaries do not vary greatly, and are relatively low; however, the salary range for athletic trainers with experience varies widely by setting. This finding is supported by Weidner and Vincent (1992) who concluded that some employment settings are typically more suited for entry-level athletic trainers and consequently have a lower rate of compensation. Additional certifications have also been shown to affect one's salary as indicated in past research (Curtis, 1995; Sexton, Schmoldt, & Miles, 1994). The current study found that those athletic trainers who are also physical therapists earn a higher wage when compared to various other certifications that an athletic trainer may hold (see Table 6).

This raises concerns as to the legitimacy of athletic training certification among employers.

Teaching certifications are the most common additional certification held by the athletic trainers in the current study (see Table 6). The current study also found that 23.6% of the District Eight athletic trainers reporting are employed at the secondary school setting (see Table 1). This may be supported by Curtis' (1995) findings that the main advantage to obtaining teacher certification was increased job opportunities. Sexton, Schmoldt, and Miles (1994) also support these findings in their study which concluded that athletic trainers with a teaching certificate had a greater chance of employment and increased salary. Thus to increase marketability this study suggests that athletic trainers should obtain additional certifications.

Inspection of salaries in relation to setting in the current study found those athletic trainers employed in the professional setting earn the highest salary, and those employed in the clinic/high school setting earn the least (see Table 1). These findings, related to the high end salaries, are consistent with Somerville and Stanwood's (1996) examination of Certified Athletic Trainers in District Two. The finding that the lowest average salary is in the college/university level and the highest average salary was in professional sports is inconsistent with past research (Somerville & Stanwood, 1996). The inconsistent findings in regards to the low end salary ranges may suggest that employment settings and salary are affected by the specific district or region of the National Athletic Trainers Association. Thus, these results encourage the consistent examination of other districts throughout the National Athletic

Trainers Association in order to establish a trend in salary structure.

The cost of living varies dramatically between California, Nevada, and Hawaii, so when analyzing the district itself, states must be examined individually for cost of living. In addition, metropolitan and rural areas differ greatly in their cost of living. Therefore, attention must also be paid to the area in which one works and/or resides. In California for example, a 17% difference in cost of living exists within the state as a $30,000 salary in Riverside - San Bernadino County would only be comparable to a $25,540 salary in San Diego (Deloitte & Touche, 1997).

CONCLUSION

This study substantiates past research in different districts that salary is affected primarily by the highest earned degree and the possession of additional certifications. Salary related to setting and district varies in District Eight in comparison to other districts. In addition, this study offers new information regarding athletic training salary range compared to the cost of living, metropolitan versus rural settings within states, and hourly wage per setting. Salary has consistently been examined; however, the context in which it is analyzed differs. Due to the varied number of hours worked per week, salary variations, and state differences, salary must be viewed in the context of hourly wage and cost of living.

The professional setting was determined to have the highest average overall salary, although the availability of professional positions and the number of hours they work must be viewed in the context of the salary ranges. Certified athletic trainers employed in the professional setting

represent only 3.3% of the athletic training sample responding, and only 1% in the district overall (NATA, personal communication October 27, 1998). In addition, the average number of hours worked in a week is highest in the professional setting at an average of 67 hours, decreasing one's rate of pay to $16.80 per hour. Although the clinic setting ranked lower in average overall salary, that setting averaged 44 hours worked per week, resulting in a rate of pay of $22.46 per hour.

Pursuit of employment should include the investigation of what district the job is in, state, in addition to the area (metropolitan versus rural), setting, number of work hours expected, salary, benefit plans, and additional responsibilities outside of athletic training. The cost of living must be factored into salary when pursuing employment. In addition, for athletic trainers to be more marketable and increase their rate of pay, athletic trainers should pursue higher education and obtain additional certifications (including physical therapy, physical therapy assistant, CSCS, teaching, EMT, and other related certifications).

Inconsistencies identified in this study regarding low and high end salary ranges compared to those found in past research suggests the need for additional research to be done. Future studies should focus on all NATA districts. Special consideration must be given to the cost of living, the distinction between metropolitan and rural settings related to salary, and hourly wage because this directly impacts lifestyle. Finally, salary studies need to be repeated every 5 to 7 years since the profession continues to diversify and the cost of living continues to change.

Table 1

Certified athletic trainer employment settings, average full time and part time salary for NATA District Eight

Setting	% Of Respondents	FT Salary n = 462	PT Salary n = 114
College n = 191	33.1	$39,737 (± 14,267)	$17,928 (± 10,881)
Clinic n = 160	27.7	$45,470 (± 20,449)	$ 25,874 (± 16,696)
Secondary School n = 136	23.6	$33,164 (± 10,985)	$14,449 (± 14,270)
Clinic / High School n = 24	4.2	$32,385 (± 8,972)	$18,280 (± 10,123)
Professional n = 19	3.3	$52,340 (± 27,423)	$22,300 (± 9,475)
Corporate n = 4	0.7	$47,666 (± 21,079)	$56,000 (± 0)
Other n = 43	7.5	$42,397 (± 19,202)	$31,975 (± 15,760)

Table 2

Rural, metropolitan, and state breakdowns of certified athletic trainers in District Eight

State	Overall n = 574	Metropolitan n = 416	Rural n = 113
California	499 (86.9%)	364 (79.1%)	96 (20.9%)
Hawaii	45 (7.8%)	23 (59%)	16 (41%)
Nevada	30 (5.2%)	29 (96.7%)	1 (3.3%)

Table 3

Rate of pay and average number of hours worked for full time employees in various settings of District Eight.

Setting	FT Hours	FT $/Hour
Secondary School	45	$18.24
College/ University	50	$18.80
Clinic	44	$22.46
Professional	67	$16.80
Corporate	47	$25.22
Clinic / High School	46	$15.04
Other	45	$19.91

* Salary based on average length of contract for the Secondary School, College/University, and Clinic/ High School setting, while the remaining settings salaries were based on 12 month contracts.

Table 4

Benefits and the range of percentage health care coverage for certified athletic trainers in District Eight.

Benefit	n / %	range
Medical	464 (80.4%)	50% - 100%
Dental	421 (73%)	20% - 100%
Vision	329 (57.1%)	20% - 100%
Life Insurance	309 (53.6%)	
Prescription	329 (57.1%)	
Other	128 (22.2%)	

Table 5

District Eight certified athletic trainers highest degree earned and full time salary (N = 576)

Degree	n	%	Avg. Salary
Master's	286	49.7	$ 41,214 (± 17,650)
Bachelor's	270	46.9	$ 29,239 (± 15,857)
Doctorate	20	3.5	$ 66,155 (± 32,583)

Table 6

Additional certifications obtained by District Eight members (N = 402), and full time salary

Additional Certifications	n	%	Avg. Salary
Teaching	98	17	$ 38,092 (± 21,081)
Physical Therapy Assistant	81	14	$ 42,931 (± 15,705)
CSCS	55	9.5	$ 38,447 (± 22,273)
Physical Therapist	50	8.7	$ 56,088 (± 18,553)
EMT	34	5.9	$ 29,422 (± 15,061)
Other	84	14.6	$ 41,548 (± 25,035)

Table 7

Full time entry level and non-entry level salary based on setting

Setting	Entry Level Salary (Full Time)	Non-Entry Level Salary (Full Time)
Secondary School	$ 30,501 (± 6,984)	$ 26,707 (± 18,291)
College	$ 24,614 (± 10,474)	$ 41,433 (± 13,703)
Clinic	$ 32,146 (± 11,908)	$ 46,249 (± 20,948)
Professional	-	$ 49,178 (± 27,626)
Corporate	-	$ 49,750 (± 17,708)
Clinic / High School	$ 28,833 (± 3,547)	$ 29,611 (± 11,738)
Other	$ 39,730 (± 16,709)	$ 43,473 (± 19,535)

(- = no respondents reported being entry level at these settings).

EXPANDED SUPPORT MATERIAL

PROJECT PROPOSAL

Chapter I

INTRODUCTION

The National Athletic Trainers Association (NATA) has experienced membership growth from 200 athletic trainers in its founding year, 1950, to more than 19,000 members today, a 300% increase. The NATA reports that 92% of all certified athletic trainers in the country belong to the NATA. Last year alone, 2,137 athletic trainers became certified and over 1,750 have received certification this year. This has created a surplus of athletic trainers and has contributed to employment setting diversification from the traditional collegiate setting to include high school, rehabilitation clinic/high school, rehabilitation clinic, professional, industrial, and a combination of all of these (NATA, personal communication, September 17, 1998). Yet, salary ranges and benefit packages have not been consistent among settings or location (Hunt, 1999). Unlike NATA District Eight, some NATA districts have participated in salary surveys in an attempt to standardize salary ranges among settings (Somerville & Stanwood, 1996). Thus, salary issues need to be investigated in NATA district eight, specifically benefits, cost of living, and rural versus metropolitan settings. Recent research, conducted by the NATA, has neglected to analyze benefits, cost of living, and rural versus metropolitan areas in salary surveys (Hunt, 1999). The purpose of this project is to identify salary ranges of certified athletic trainers in District Eight of the NATA.

Salary range impacts both athletic trainer employers and athletic trainers entering the job market. This project can be referenced to clearly

identify salary ranges for different athletic training settings/position(s), that accurately reflects NATA District Eight.

Due to the rapid growth in the number of certified athletic trainers nationwide and employment setting expansion, standard salary information has not been developed. Many studies have investigated salary, however, none take into consideration cost of living or differentiate between the rural and metropolitan settings, resulting in misleading information. Several factors may affect salary ranges in athletic training including educational level, length of contract, additional certifications, years of experience, and job conditions/work conditions (including title, full versus part time, number of hours worked, responsibilities other than athletic training, and benefits) (Arnold et al.,1996). These factors, in addition to salary ranges, have not yet been identified for District Eight of the NATA. Thus, athletic training employers in the western United States may not adequately compensate their athletic trainers.

PURPOSE OF THE PROJECT

The purpose of this project is to complete a journal article for the Journal of Athletic Training, according to the author's guide (See Appendix D) and submit for publication. The article examined the salary, demographic, and descriptive information of Certified Athletic Trainers registered in District Eight of the National Athletic Trainers Association to provide standard wage information.

SIGNIFICANCE OF THE PROJECT

This project may impact both employers and athletic trainers in the job market. Individuals who consider pursuing athletic training as a career within District Eight should have access to salary ranges to identify wages according to employment setting. In addition, the results of this project may aid employers in contract offerings by providing a reference to current salary ranges in NATA District Eight.

DELIMITATIONS OF THE PROJECT

Data collection was conducted through the use of a mailed survey to all certified members in District Eight of the National Athletic Trainers Association, including California, Nevada, and Hawaii. Delimitations exist within this study as a result of mailed surveys. The scope of this project was narrowed by surveying only District Eight certified members of the National Athletic Trainers Association, and thus its focus is on a limited range of subjects (District Eight) and a particular level of ability (certified athletic trainers).

LIMITATIONS OF THE PROJECT

It is assumed that all respondents provide honest and accurate information. If salaries in District Eight are low compared to other districts in the National Athletic Trainers Association, these findings may perpetuate the cycle of under compensation of certified athletic trainers and have negative consequences.

DEFINITION OF TERMS

Certified athletic trainer- descriptive of an individual who has taken the necessary course work, obtained a bachelor's degree, fulfilled the necessary hour requirement in an athletic training environment, and has successfully completed the three sections of the national certification exam.

Current salary- wages earned, including any stipends and benefits.

Employment setting- divided into four groups: high school, college/university (including junior college and all other four year schools), clinic (outpatient and/or inpatient), and professional.

District Eight of the National Athletic Trainers Association- Certified and non-certified members living in California, Nevada, Hawaii, and Guam.

Educational level- the type or amount of post - graduate studies in progress or completed by the certified athletic trainer, specifically a master's degree, doctorate degree.

Years of experience- the number of years of work experience an athletic trainer has completed in the athletic training work force after initial certification by the National Athletic Trainers Association.

Chapter 2

REVIEW OF LITERATURE

Historically, research on certified athletic trainers' employment has focused on certification, education issues, employment settings of certified athletic trainers, and salaries of athletic trainers (Arnold et al., 1998; Arnold et al., 1996; Curtis, 1995; Delforge & Behnke, 1999; Duncan & Wright, 1992; Lindaman, 1992; Moss, 1994; Moss, 1996; Hunt, 1999; Sexton, Schmoldt, & Miles, 1994; Somerville & Stanwood, 1996; Weidner, 1994; Weidner & Vincent, 1992). NATA District Two has participated in salary surveys, however, District Eight has not. This chapter is divided into four sections: athletic training professional preparation, education, employment, and salary.

Athletic Training Professional Preparation

Athletic training involves the prevention, recognition, management, and rehabilitation of sports injuries incurred by athletes and active individuals (NATA, personal communication September 17, 1998). NATA - BOC national certification is required to obtain employment, and a formal athletic training educational process is required to take the National certification exam. Athletic training as a profession dates back to 1950 when the National Athletic Trainers Association was formed. William Newell was appointed the National Secretary of the NATA in 1955, a position which is now referred to as the Executive Director. While holding this position, Newell chaired a committee entitled the Committee on Gaining Recognition, which in 1956 began this process by focusing on athletic training education and national certification (Delforge & Behnke, 1999). As athletic training

education and the resulting curriculums evolved, so did the process of creating national certification. The first national certification exam for athletic trainers was administered in 1970 (Delforge & Behnke, 1999).

Presently, the process of becoming a certified athletic trainer begins as an undergraduate student in either a curriculum or internship program (see Table 8). Both routes must meet specific requirements including similar core educational courses, in addition to practical hour requirements. Once these requirements have been met, candidates are eligible to take the National NATA BOC certification exam. Upon successful completion of this exam, athletic trainers are then deemed a certified athletic trainer (ATC) (NATA, personal communication, September 17, 1998).

Education

Educational research in athletic training has focused on continuing education, professional preparedness in undergraduate programs, and teacher certification (Curtis, 1995; Weidner, 1994; Weidner & Vincent, 1992). Although the focus of this study is salary, it is clear that education level affects employability, place of employment, and salary (Hunt, 1999, Somerville & Stanwood, 1996).

Professional preparation in undergraduate programs may impact employers' hiring criteria and salary range. Weidner and Vincent (1992) surveyed entry-level certified athletic trainers in regards to professional preparation and found that while athletic trainers felt more prepared in the prevention, evaluation, recognition of athletic injuries/illnesses, and first

aid/emergency care, they felt less prepared in rehabilitation, reconditioning, organization and administration of athletic training programs, counseling, guidance, and education of athletes (see Table 9). Weidner and Vincent's study suggests that some employment settings, typically more suited for entry-level athletic trainers, have a lower rate of compensation due to the lack of professional experience with unqualified athletic trainers in that particular setting, Weidner and Vincent's (1992) study also indicates a need for higher education among athletic trainers. Higher level education and additional degrees/certifications may increase salary.

Table 8

Curriculum and internship requirements for certification candidacy.

	Curriculum	Internship
COURSES	Athletic injury/illness prevention and evaluation First aid and emergency care Athletic training program administration Human anatomy and physiology Exercise physiology Kinesiology/Biomechanics Nutrition Psychology Personal and Community Health Instructional methods	Health Human Anatomy Kinesiology/ Biomechanics Exercise Physiology Basic Athletic Training Advanced Athletic Training
PRACTICAL HOURS	Complete a minimum of 800 internship hours under ATC supervision Complete program in no less than 2 years Receive baccalaureate degree from college / university where they completed the program	Complete a minimum of 1,500 hours under ATC supervision Complete internship in no less than 2 years, but no more than 5 Completion of at least 1,000 of their hours in inter - scholastic, intercollegiate, or professional sports (500 can be done in a clinic or sports camp) Receive bachelor's degree from the college/university where they completed the program

Note. From NATA, personal communication, 1998. Reprinted with Permission.

Table 9

Perceived Adequacy of Academic and Clinical Preparation in Athletic Training (N = 177)

Domain	Academic			Clinical		
	Agree n (%)	Strongly Agree n (%)	Total Agree n (%)	Agree n (%)	Strongly Agree n (%)	Total Agree n (%)
Prevention of athletic injuries/ illnesses	87 (49)	75 (42)	162 (92)	80 (45)	77 (44)	157 (89)
Evaluation of athletic injuries/ illnesses	87 (49)	75 (42)	162 (92)	76 (43)	81 (46)	157 (89)
First aid and emergency care	71 (40)	96 (54)	167 (94)	74 (42)	83 (47)	157 (89)
Rehabilitation/ reconditioning	76 (43)	44 (25)	120 (68)	70 (40)	43 (24)	113 (64)
Organization/ administration of athletic training program	79 (45)	24 (14)	103 (58)	69 (39)	24 (14)	93 (53)
Counseling and guidance of athletes	73 (41)	19 (11)	92 (52)	65 (37)	20 (11)	85 (48)
Education of athletes, parents, and coaches	78 (44)	29 (16)	107 (60)	68 (38)	28 (16)	96 (54)

Note. From "Evaluation of Professional Preparation in Athletic Training by Employed, Entry-Level Athletic Trainers," by T.G. Weidner and W.J. Vincent, 1992. Journal of Athletic Training, 27 p.306. Reprinted with Permission.

Teacher certification among athletic trainers has also been examined in relation to salary range. Curtis (1995) surveyed the directors of 78 National Athletic Trainers Association undergraduate programs to determine the number of athletic training students who pursue teacher certification. Curtis (1995) found that 177 of 703 (25%) expected graduates in 1992 pursued teacher certification, while 148 of 640 (23%) graduates in 1991 pursued teacher certification. The main advantage of teacher certification, according to the program directors, was increased job opportunities. This suggests that individual wages for athletic trainers working in a high school setting are affected by teacher certification, especially those who split time between teaching and athletic training.

Employment

Current athletic training literature on employment focuses on job availability and competency expectations in specific employment settings (Arnold et al., 1998; Arnold et al., 1996; Duncan & Wright, 1992; Lindaman, 1992; Sexton, Schmoldt, & Miles, 1994; Weidner & Vincent, 1992). Sexton, Schmoldt, and Miles (1994), conducted a study to determine job availability in school and/or clinical settings in selected Midwestern states. Results indicated that 87% of the school districts do not hire an athletic trainer due to financial restrictions; however, athletic trainers with teaching certificates had a greater chance of employment because they are hired as both teacher and athletic trainer. The addition of a teaching certificate can greatly increase an athletic trainers salary (Curtis, 1995).

Additional studies have reviewed the availability of certified athletic trainers relative to the level of professional preparation (Lindaman,1992), and the professional preparation of athletic trainers in clinical settings (Duncan & Wright, 1992). While these studies do not address differences in salaries among various employment settings, they do offer information on certified athletic trainer employment location throughout the country.

Salary

There is a limited amount of literature on salary range, and no salary studies west of the Mississippi (Arnold et al., 1996; Moss, 1994; Moss, 1996; Somerville & Stanwood, 1996). Crayton Moss (1994, 1996) conducted two studies that focused on entry-level athletic training salaries. Moss (1994, 1996) intended to develop salary norms and establish trends based upon those studies. Moss (1994, 1996) mailed surveys to employers who posted vacancy notices in the NATA Bulletin to fill entry-level positions. Entry-level was described as a certified athletic trainer with no full-time paid employment experience. The current project resembles Moss' (1994, 1996) studies in that the survey topics include position available, compensation for bachelor's degree, master's degree, and stipend, term of contract, weekly workload, pay scale availability, raise percentage, and fringe benefits. The 1994 study indicated that the highest average salary among three employment sites was in the high school setting, when it involved teaching, while the lowest average salary was in the university/college setting. The university/college was usually a non-teaching assistant position. Moss' 1996 findings were

consistent with his 1994 study (see Table 10) that employment at the high school setting is more lucrative for certified athletic trainers than various other settings.

Table 10

1994 Entry-Level Athletic Training Salaries According to Degree, Job Site, and Position Along with Percentage Change From 1992 Study (Mean + SD).

		Bachelor's Degree		Master's Degree	
Position	(n)	x ± SD	Change	x ± SD	Change
Hospital / Clinic					
Athletic Trainer	(17)	$23,847 ± $2608	+ 3.7 %	$28,117 ± $2382	+ 11.1 %
Athletic Trainer/ Athletics	(114)	23,967 ± 2965	+ 5.4 %	25,782 ± 2963	+ 1.8 %
Total	(131)	23,949 ± 2904	+ 4.9 %	26,032 ± 2893	+ 2.8 %
College / university					
Head Athletic Trainer	(16)	23,101 ± 4585	- 3.9 %	25,706 ± 6820	- 3.3 %
Assistant Trainer/ Teacher	(43)	22,136 ± 3522	- 2.5 %	25,822 ± 5139	+ 5.7 %
Assistant Athletic Trainer	(35)	21,966 ± 3664	+12.9 %	23,676 ± 3991	+ 3.6 %
Total	(94)	22,262 ± 3752	+ 8.7%	25,035 ± 5113	+ 5.6 %
High school					
Athletic Trainer	(11)	21,584 ± 3992	- 2.5 %	23,000 ± 2943	- 19.1 %
Athletic Trainer/ Teacher	(35)	25,963 ± 2474	- 2.9 %	28,017 ± 3073	- 2.2 %
Total	(46)	24,892 ± 2887	- 4.1%	27,444 ± 3036	- 3.9 %
Salary summary					
Total	(271)	23,228 + 3177	+ 0.5 %	25,362 + 3883	+ 0.6 %

Note. From "1994 Entry-Level Athletic Training Salaries," by C.L. Moss, 1996. Journal of Athletic Training, 31 p. 26. Reprinted with permission.

Factors which may predict salary were examined by Arnold et al. (1996). A survey of prospective employers from the National Athletic Trainers Association job vacancy notices was conducted in 1994. Arnold et al.'s objective was threefold: 1) to determine the "demographics and professional credentials of recently hired athletic trainers; 2) the association between these characteristics and the high school, clinical, and collegiate setting; and 3) which of these factors best predicted salary" (p.215) (see Table 11). Review of the results indicate that the best predictor of salary was the possession of a doctoral or master's degree. This suggests that employment setting is not a good predictor of salary (see Table 12, 13).

Table 11

Athletic Training Salaries for Each Practice Setting (Mean + SD)

Setting	Salary
High School*	$ 22,781 ± 8,182
Clinic	26,344 ± 3,876
College	25,835 ± 6,160

* High school < clinic and college ($p < .05$).

Note. From "1994 Athletic Trainer Employment and Salary Characteristics," by B.L. Arnold, et al., 1996. Journal of Athletic Training, 31, p.217. Reprinted with permission.

Table 12

Athletic Training Salaries for Highest Degree Attained (Mean + SD)

Degree	Salary
Bachelor's *	$ 23,684 ± 6,282
Master's	25,868 ± 5,537
Doctorate	33,786 ± 2,857

* Bachelor's < master's < doctorate ($p < .05$).

Note. From "1994 Athletic Trainer Employment and Salary Characteristics," by B.L. Arnold, et al., 1996. Journal of Athletic Training, 31, p.217. Reprinted with permission.

Table 13

Athletic Training Salaries for Practice Setting and Teaching Responsibilities (Means + SD)

Setting	No Teaching	Teaching	Total
High School *	$19,547 ± 8651	27,191 ± 4890	22,781 ± 8182
Clinic	26,344 ± 3876	0 ± 0	26,344 ± 3876
College	24,561 ± 6228	26,802 ± 5984	25,835 ± 6160
Total	24,705 ± 6095	26,914 ± 5660	25,390 ± 6039

* High School, no teaching < high school, teaching; clinic, no teaching; college, no teaching; and college teaching ($p < .05$). College, no teaching < high school, teaching ($p < .05$).

Note. From "1994 Athletic Trainer Employment and Salary Characteristics," by B.L. Arnold, et al., 1996. Journal of Athletic Training, 31, p.217. Reprinted with permission.

Another study by Arnold et al. (1998) examined employer importance ratings of 35 employee characteristics in various settings including college, sports medicine clinics, and high schools. Arnold et al.'s findings indicated that all three of the employment settings found educational program reputation, written recommendations, job interview performance, and NATA - BOC certification eligibility to be most important. In addition,

specific experience (college, sports medicine clinic, high school, and sport-specific experience), and the possession of a master's or bachelor's degree were most valued by prospective employers, and thus may also affect an employees salary. The current study supported Arnold et al.'s (1998) findings which found that the possession of a higher educational degree increases salary.

Somerville and Stanwood (1996), surveyed certified athletic trainers in NATA District Two (Delaware, New Jersey, New York, and Pennsylvania) to evaluate employment status including: 1) highest earned academic degree, 2) practice setting, 3) years of experience as a certified athletic trainer, 4) state in which currently employed, 5) annual salary, 6) full versus part time status, 7) other certifications and credentials held, 8) non- athletic training responsibilities, and 9) supplemental income information. Their objective was to obtain salary information for use as a reference guide. Somerville and Stanwood found that college/university level athletic trainers had the lowest average salary. The highest average salary was in professional sports. These findings differ from the results found by Moss's (1994, 1996) and Arnold et al.'s (1996) findings, implying salary in employment settings may be affected by NATA district or region across the country. Variability in salary information encourage the consistent examination of other districts throughout the National Athletic Trainer Association (NATA) in order to establish a trend in salary structure. Therefore, the purpose of the current study is to expand on past research and specifically survey certified athletic trainers in NATA District Eight.

Chapter 3

METHODS SECTION

Sampling

Subjects in the current project included all 1,447 certified athletic trainers registered in District Eight of the National Athletic Trainers Association. The District Eight member mailing list was obtained from the District office to identify subjects for this study.

Survey

All registered NATA District Eight (CA, NV, HI) certified athletic trainers (1,447) were mailed a 20 question survey designed specifically for use in this study. Variables were selected based on Somerville and Stanwood's (1996) salary survey. Questions related to rural and metropolitan areas were added to Somerville and Stanwood's original survey.

A qualitative review of the survey instrument was conducted through the use of a pilot study in order to enhance the quality and probability of getting useful data (Appendix A). The pilot study was conducted on 25 subjects from District Eight and as a result these subjects were subsequently excluded from the final survey. Minor changes were made to the questionnaire in order to clarify the questions based on responses.

Procedure

Prior to administering the survey, approval was obtained from the San Jose State University Human Subjects committee. The cover letter addressed issues of consent, anonymity, and confidentiality. The survey, cover letter, and self-addressed stamped envelope were then mailed to the subjects

(Appendix B, C, D). Return of the survey was requested within two weeks of its arrival. A reminder post card was mailed one week following the initial survey.

Each self addressed stamped envelope was coded prior to its distribution in order to assess an accurate return rate and allow for the second mailing to occur.

Once the final deadline had passed, all survey responses received were statistically analyzed, both within each state and within each employment setting.

Statistical Methods

Descriptive information was analyzed on all subjects including: mean and standard deviation of the subjects' starting salary, current salary, age, years at current position, years of experience as a certified athletic trainer, length of contract, and the average number of hours worked per week. Related studies, (Moss 1994, 1996 and Somerville & Stanwood, 1996) have evaluated data solely through descriptive statistics. Frequency was calculated for employment setting, entry level positions, job titles, full versus part time status, state currently employed in, metropolitan versus rural areas, yearly salary increases, supplemental income, outside responsibilities, compensation for outside responsibilities, possession of benefits, highest degree earned, route to certification, gender, and possession of additional certifications. Means by subgroups were analyzed for salary in relation to setting, job title, state, route to certification, highest degree of education, and gender. Correlations were analyzed for salary related to years of experience and age.

Cross tabulations were performed for: 1) gender related to education, 2) gender related to job title, 3) gender related to setting, 4) benefits related to setting, and 5) setting related to education. The current study utilized the same statistics for comparative purposes.

Findings were compiled into a journal article entitled, Salary Survey of District Eight Certified Athletic Trainers, for the Journal of Athletic Training. Writing style for this article is consistent with the Journal of Athletic Training Authors Guide (See Appendix E) and will be submitted for publication.

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APPENDIX A.

Pilot Study Survey

SALARY CONSIDERATIONS OF DISTRICT EIGHT CERTIFIED ATHLETIC TRAINERS

Please check the appropriate box and fill in the blanks where indicated.

1. What setting are you currently practicing in ?

___ SECONDARY SCHOOL * LENGTH OF CONTRACT IN MONTHS:_____

___ COLLEGE * WHAT LEVEL (DIV. I, II, III) ? _____
* LENGTH OF CONTRACT IN MONTHS:_____

___ CLINIC

___ PROFESSIONAL * SPORT:_____

___ CORPORATE

___ OTHER * EXPLAIN:_____

2. Is this an entry - level position ?

____ YES ____ NO

3. What title do you hold ?

_____ HEAD TRAINER ___ OTHER *EXPLAIN:_____

___ ASSISTANT TRAINER

4. Is your position full time or part time?

___ FULL TIME ___ PART TIME

5. What is the average number of hours worked on a weekly basis ? _____

6. In what state are you currently employed ?

___ CALIFORNIA	___ HAWAII	___ NEVADA
___ Metropolitan Area	____ Metropolitan Area	____ Metropolitan Area
____ Rural Area	_____ Rural Area	_____ Rural Area

7. What was your starting salary at your current position ? _____

8. Do you receive a yearly increase at your current position ?

_____ YES * IF YES, AVERAGE OF INCREASE:_____
___ NO

9. What is your current salary ? _____

10. Do you have any other type of supplemental income ?

_____ YES * IF YES, EXPLAIN: _____
_____ NO

11. Do you have other responsibilities outside of athletic training in your job description ? (i.e.: equipment manager, course instructor)

_____ YES * IF YES, EXPLAIN: _____
_____ NO

12. If yes on question 18, are you compensated for your other responsibilities outside of athletic training ?

_____ NOT APPLICABLE
_____ YES * IF YES, HOW MUCH: _____
_____ NO

13. What benefits are provided by your employer ?

_____ MEDICAL * % COVERAGE: _____

_____ DENTAL * % COVERAGE: _____

_____ VISION * % COVERAGE: _____

_____ LIFE INSURANCE

_____ PRESCRIPTION PLAN

_____ OTHER * EXPLAIN: _____

14. How long have you been at your current position ? _____

15. How many years of experience do you have as a Certified Athletic Trainer ? _____

16. What degree of higher education do you currently possess ?

_____ BACHELOR'S DEGREE _____ DOCTORATE DEGREE

_____ MASTER'S DEGREE

17. What route to certification did you take ?

_____ CURRICULUM _____ INTERNSHIP

18. What other certifications, if any, do you possess (PTA, CSCS, teaching, etc.) ?

_____

19. Gender:

_____ MALE _____ FEMALE

20. Age:

_____ 20 - 30 ____ 31 - 40 ____ 41 - 50 ____ 51 - 60 ____ 61 and over

APPENDIX B.

Sample Survey

SALARY CONSIDERATIONS OF DISTRICT EIGHT CERTIFIED ATHLETIC TRAINERS

Please check the appropriate box and fill in the blanks where indicated.

1. What setting are you currently practicing in ?

___ SECONDARY SCHOOL * LENGTH OF CONTRACT IN MONTHS:_____

___ COLLEGE * WHAT LEVEL (DIV. I, II, III, Community)? _____

* LENGTH OF CONTRACT IN MONTHS:_____

___ CLINIC

___ PROFESSIONAL *SPORT:_____

___ CORPORATE

___ OTHER * EXPLAIN:_____

2. Are you currently working in an entry - level position ?

_____ YES _____ NO

3. What title do you hold ?

_____ HEAD ATHLETIC TRAINER ____ OTHER* EXPLAIN:_____

____ ASSISTANT ATHLETIC TRAINER

4. Is your position full time or part time?

____ FULL TIME ____ PART TIME * PERCENT:_____

5. What is the average number of hours worked on a weekly basis ? _____

6. In what state are you currently employed ?

____ CALIFORNIA	____ HAWAII	____ NEVADA
____ Metropolitan Area	_____ Metropolitan Area	_____ Metropolitan
_____ Rural Area	____ Rural Area	_____ Rural Area

7. What was your starting salary (gross salary, per year) at your current position ? _____

8. What is your current salary (gross salary, per year) ? _____

9. Do you receive a yearly increase at your current position ?

_____ YES * IF YES, AVERAGE OF INCREASE:_____

____ NO

10. Do you have any other type of supplemental income ?
_____ YES * IF YES, EXPLAIN: _____
_____ NO

11. Do you have other responsibilities outside of athletic training in your job description (i.e.: equipment manager, course instructor, coaching, etc.) ?
_____ YES * IF YES, EXPLAIN:_____
_____ NO

12. If yes on question 11, are you compensated for other responsibilities outside of athletic training as a part of your current salary ?
_____ NOT APPLICABLE
_____ YES * IF YES, IN WHAT WAY:_____
_____ NO

13. What benefits are provided by your employer ?
_____ MEDICAL * % COVERAGE:_____
_____ DENTAL * % COVERAGE:_____
_____ VISION * % COVERAGE:_____
_____ LIFE INSURANCE
_____ PRESCRIPTION PLAN
_____ OTHER * EXPLAIN:_____

14. How long (in years) have you been at your current position ? _____

15. How many years of experience do you have as a Certified Athletic Trainer ?_____

16. What is your highest degree earned ?
____ BACHELOR'S DEGREE ____ DOCTORATE DEGREE
____ MASTER'S DEGREE

17. What route to certification did you take ?
_____ CURRICULUM _____ INTERNSHIP

18. What other certifications, if any, do you possess (PTA, CSCS, teaching, etc.) ?_____

19. Gender:
_____ MALE _____ FEMALE

20. Age: _____

APPENDIX C.

Sample Cover Letter

February 2, 1999

Dear Certified Athletic Trainer,

There is currently no identified salary range that exists for the 1,470 Certified Athletic Trainers that are registered within District Eight. Thus, I am conducting a salary survey of all Certified Athletic Trainers in District Eight in order to gain valuable information which might someday directly influence you and the salary you receive as an Athletic Trainer.

The purpose of my study is to examine the various salaries of Certified Athletic Trainers within District Eight and hope to ultimately create a reference in which employers can access to clearly identify salary ranges for specific vacancies. Thus potential candidates may be offered compensation which accurately reflects the salaries of that particular setting throughout our district.

As a Certified Athletic Trainer, I realize how precious your time is, however, by completing this survey you can help to take the first step in ensuring that we receive appropriate compensation for the work we do.

You should understand that your participation is voluntary and that choosing not to participate in this study, or in any part of this study, will not affect your relations with San Jose State University. No risks have been anticipated as a result of your participation in this study. The results of this study may be published, but any information that could result in your identification will remain confidential. Completion and return of the following survey implies consent to utilize the confidential information you provide. Please take a couple of minutes to complete the enclosed survey and return it within two weeks of its arrival in the enclosed self - addressed stamped envelope.

If you have any questions or concerns about this study, please feel free to contact me at (650) 725 - 3793, or Leamor Kahanov, Graduate Athletic Training Coordinator, at (408) 924 - 3040. If you have any questions or complaints about research subjects' rights, please contact Serena Stanford, Ph.D., Associate Vice President for Graduate Studies and Research, at (408) 924-2480. Thank you!

Sincerely,

Ann M. Caslin ATC
San Jose State University

APPENDIX D.

Sample Follow - Up Post Card

REMINDER POST CARD

Just a reminder to those of you who may have forgotten to return your salary survey. If you have yet to complete and return your survey, please do so within the next week. If you have already returned it, please disregard this note. Thank you in advance.

Sincerely,

Ann M. Caslin ATC

APPENDIX E.

The Journal of Athletic Training

Authors Guide

Authors' Guide

(Revised January 1999)

The mission of the *Journal of Athletic Training* is to enhance communication among professionals interested in the quality of health care for the physically active through education and research in prevention, evaluation, management, and rehabilitation of injuries.

SUBMISSION POLICIES

1. Submit 1 original and 5 copies of the entire manuscript (including tables and figures) to: *Journal of Athletic Training* Submissions, Hughston Sports Medicine Foundation, Inc., 6262 Veterans Parkway, PO Box 9517, Columbus, GA 31908. The term *figure* refers to items that are not editable, either halftones (photographs) or line art (charts, graphs, tracings, schematic drawings), or combinations of the two. A *table* is an editable item that needs to be typeset.
2. All manuscripts must be accompanied by a letter signed by each author and must contain the following statements: "This manuscript 1) contains original unpublished material that has been submitted solely to the *Journal of Athletic Training*, 2) is not under simultaneous review by any other publication, and 3) will not be submitted elsewhere until a decision has been made concerning its suitability for publication by the *Journal of Athletic Training*. In consideration of the NATA's taking action in reviewing and editing my submission, I the undersigned author hereby transfer, assign, or otherwise convey all copyright ownership to the NATA, in the event that such work is published by the NATA. Further, I verify that I have contributed substantially to this manuscript as outlined in item #3 of the current Authors' Guide." By signing the letter, the authors agree to comply with all statements. Manuscripts that are not accompanied by such a letter will not be reviewed. Accepted manuscripts become the property of the NATA. Authors agree to accept any minor corrections of the manuscript made by the editors.
3. Each author must have contributed to the article. This means that all coauthors should have made some useful contribution to the study, should have had a hand in writing and revising it, and should be expected to be able to defend the study publicly against criticism.
4. Financial support or provision of supplies used in the study must be acknowledged. Grant or contract numbers should be included whenever possible. The complete name of the funding institution or agency should be given, along with the city and state in which it is located. If individual authors were the recipients of funds, their names should be listed parenthetically.
5. Authors must specify whether they have any commercial or proprietary interest in any device, equipment, instrument, or drug that is the subject of the article in question. Authors must also reveal if they have any financial interest (as a consultant, reviewer, or evaluator) in a drug or device described in the article.
6. For experimental investigations of human or animal subjects, state in the "Methods" section of the manuscript that an appropriate institutional review board approved the project. For those investigators who do not have formal ethics review committees (institutional or regional), the principles outlined in the Declaration of Helsinki should be followed (41st World Medical Assembly Declaration of Helsinki: recommendations guiding physicians in biomedical research involving human subjects. *Bull Pan Am Health Organ.* 1990;24:606–609). For investigations of human subjects, state in the "Methods" section the manner in which informed consent was obtained from the subjects. (Reprinted with permission of *JAMA* 1997;278:68, copyright 1997, American Medical Association.)
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10. Published manuscripts and accompanying work cannot be returned. Unused manuscripts will be returned if submitted with a stamped, self-addressed envelope.

STYLE POLICIES

11. Each page must be printed on 1 side of 8½-by-11-inch paper, double spaced, with 1-inch margins in a font no smaller than 10 points. Each page should include line counts to facilitate the review process. Do not right justify pages.
12. Manuscripts should contain the following, organized in the order listed below, with each section beginning on a separate page:
    a. Title page
    b. Acknowledgments
    c. Abstract and Key Words (first numbered page)
    d. Text (body of manuscript)
    e. References
    f. Tables (each on a separate page)
    g. Legends to figures
    h. Figures
13. Begin numbering the pages of your manuscript with the abstract page as #1; then, consecutively number all successive pages.
14. Units of measurement shall be recorded as SI units, as specified in the *AMA Manual of Style*, except for angular displacement, which should be measured in degrees rather than radians. Examples include mass in kilograms (kg), height in centimeters (cm), velocity in meters per second ($m \cdot sec^{-1}$ or m/sec), angular velocity in degrees per second ($\circ \cdot sec^{-1}$), force in Newtons (N), and complex rates (mL/kg per minute).
15. Titles should be brief within descriptive limits (a 16-word maximum is recommended). If a disability is the relevant factor in an article, the name of the disability should be included in the title. If a technique is the principal reason for the report, it should be in the title. Often both should appear.
16. The title page should also include the name, title, and affiliation of each author, and the name, address, phone number, fax number, and E-mail address of the author to whom correspondence is to be directed.
17. A structured abstract of no more than 250 words must accompany all manuscripts. Type the complete title (but not the authors' names) at the top, skip two lines, and begin the abstract. Items that are needed differ by type of article. **Literature Review:** Objective, Data Sources, Data Synthesis, Conclusions/Recommendations, and Key Words; **Original Research** articles: Objective, Design and Setting, Subjects, Measurements, Results, Conclusions, and Key Words; **Case Reports:** Objective, Background, Differential Diagnosis, Treatment, Uniqueness, Conclusions, and Key Words; **Clinical Techniques:** Objective, Background, Description, Clinical Advantages, and Key Words. For the Key Words entry, use three to five words that do not appear in the title.
18. Begin the text of the manuscript with an introductory paragraph or two in which the purpose or hypothesis of the article is clearly stated and developed. Tell why the study needed to be done or the article written and end with a statement of the problem (or controversy). Highlights of the most prominent works of others as related to your subject are often appropriate for the introduction, but a detailed review of the literature should be reserved for the discussion section. In a 1- to 2-paragraph review of the literature, identify and develop the magnitude and significance of the controversy, pointing out differences among others' results, conclusions, and/or opinions. The introduction is not the place for great detail; state the facts in *brief* specific statements and reference them. The detail belongs in the discussion. Also, an overview of the manuscript is part of the abstract, not the introduction. Writing should be in the active voice (for example, instead of "Subjects were selected. . .," use "We selected subjects. . .") and in the first person (for example, instead of "The results of this study showed. . .," use "Our results showed. . .").
19. The body or main part of the manuscript varies according to the type of article (examples follow); however, the body should include a discussion section in which the importance of the material presented is discussed and related to other pertinent literature. Liberal use of headings and subheadings, charts, graphs, and figures is recommended.
    a. The body of an **Original Research** article consists of a methods section, a presentation of the results, and a discussion of the results. The methods section should contain sufficient detail concerning the methods, procedures, and apparatus employed so that others can reproduce the results. The results should be summarized using descriptive and inferential statistics and a few well-planned and carefully constructed illustrations.
    b. The body of a **Literature Review** article should be organized into subsections in which related thoughts of others are presented, summarized, and referenced. Each subsection should have a heading and brief summary, possibly one sentence. Sections must be arranged so that they progressively focus on the problem or question posed in the introduction.
    c. The body of a **Case Report** should include the following components: personal data (age, sex, race, marital status, and occupation when relevant—but not name), chief

complaint, history of present complaint (including symptoms), results of physical examination (example: "Physical findings relevant to the rehabilitation program were . . ."), medical history (surgery, laboratory results, exam, etc), diagnosis, treatment and clinical course (rehabilitation until and after return to competition), criteria for return to competition, and deviation from expectations (what makes this case unique).

d. The body of a **Clinical Techniques** article should include both the *how* and *why* of the technique: a step-by-step explanation of how to perform the technique, supplemented by photographs or illustrations, and an explanation of why the technique should be used. The discussion concerning the *why* of the technique should review similar techniques, point out how the new technique differs, and explain the advantages and disadvantages of the technique in comparison with other techniques.

Percentages should be accompanied by the numbers used to calculate them.

20. **Communications** articles, including official Position Statements and Policy Statements from the NATA Pronouncements Committee; technical notes on such topics as research design and statistics; and articles on other professional issues of interest to the readership are solicited by the *Journal*. An author who has a suggestion for such a paper is advised to contact the Editorial Office for instructions.
21. The manuscript should not have a separate summary section—the abstract serves as a summary. It is appropriate, however, to tie the article together with a summary paragraph or list of conclusions at the end of the discussion section.
22. References should be numbered consecutively, using superscripted arabic numerals, in the order in which they are cited in the text. References should be used liberally. It is unethical to present others' ideas as your own. Also, use references so that readers who desire further information on the topic can benefit from your scholarship.
23. References to articles or books, published or accepted for publication, or to papers presented at professional meetings are listed in numerical order at the end of the manuscript. Journal title abbreviations conform to *Index Medicus* style. Examples of references are illustrated below. See the *AMA Manual of Style* for other examples.

Journals:

1. van Dyke JR III, Von Trapp JT Jr, Smith BC Sr. Arthroscopic management of postoperative arthrofibrosis of the knee joint: indication, technique, and results. *J Bone Joint Surg Br.* 1995;19:517–525.
2. Council on Scientific Affairs. Scientific issues in drug testing. *JAMA.* 1987;257:3110–3114.

Books:

1. Fischer DH, Jones RT. *Growing Old in America.* New York, NY: Oxford University Press Inc; 1977:210–216.
2. Spencer JT, Brown QC. Immunology of influenza. In: Kilbourne ED, Gray JB, eds. *The Influenza Viruses and Influenza.* 3rd ed. Orlando, FL: Academic Press Inc; 1975:373–393.

Presentations:

1. Stone JA. Swiss ball rehabilitation exercises. Presented at the 47th Annual Meeting and Clinical Symposia of the National Athletic Trainers' Association; June 12, 1996; Orlando, FL.

Internet Sources:

1. Knight KL, Ingersoll CD. Structure of a scholarly manuscript: 66 tips for what goes where. Available at http://www.nata.org/jat/66tips.html. Accessed January 1, 1999.
2. National Athletic Trainers' Association. NATA blood borne pathogens guidelines for athletic trainers. Available at http://www.nata.org. Accessed January 1, 1999.

24. Table Style: 1) Title is bold; body and column headings are roman type; 2) units are set above rules in parentheses; 3) numbers are aligned in columns by decimal; 4) footnotes are indicated by symbols (order of symbols: *, †, ‡, §, ‖, ¶); 5) capitalize the first letter of each major word in titles; for each column or row entry, capitalize the first word only. See a current issue of the *Journal* for examples.
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